Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1.   (Currently amended)   A computer-~~readable~~storage medium having computer-executable instructions, comprising:

maintaining ~~transmitting an~~ first interval vector ~~from a first member of a replica set to a second member of the replica set~~, the first interval vector comprising at least two~~one or more~~ intervals of versions, each interval having an upper bound and a lower bound[[.]], and the first interval vector comprising at least one gap in versions between two intervals;

evaluating the first interval vector to identify the gap;

using the gap in the first interval vector to determine that a~~determining which~~ resources are~~is~~ out-of-sync between the~~a~~ first members and a second member of a replica set~~via the interval vector~~, wherein the resource has a version contained within the gap of the first interval vector;

synchronizing the ~~of the out-of-sync~~resources; and

updating the first interval vector to indicate that the~~at least one of the out-of-sync~~ resources is synchronized.

2-3.   (Canceled)

4.   (Currently Amended) The computer-~~readable~~ storage medium of claim 1, wherein each version is a number.

5.   (Currently Amended) The computer-~~readable~~ storage medium of claim 1, wherein the intervals of the first interval vector are represented as nodes of a binary search tree.

6. (Currently Amended) The computer-~~readable~~ storage medium of claim 5, wherein the binary search tree is selected from the group consisting of~~comprises~~ an AVL tree, a red-black tree, ~~or~~and a splay tree.

7. (Currently Amended) The computer-~~readable~~ storage medium of claim 5, wherein each non-terminal node of the binary search tree has at least one child, the child having an interval with an upper bound less than the lower bound of the interval in the child's parent node or having an interval with a lower bound greater than the upper bound of the child's parent node.

8. (Currently Amended) The computer storage medium ~~system~~ of claim 5, wherein updating the first interval vector to indicate that the at least one ~~of the out-of-sync~~ resources is synchronized comprises reducing the number of nodes in the binary search tree.

9. (Currently Amended) The computer-~~readable~~ storage medium of claim 1, further comprising transmitting ~~another~~a second interval vector from the second member of the replica set to the first member of the replica set, the ~~other~~second interval vector serving to distinguish updates from conflicts.

10. (Currently Amended) The computer-~~readable~~ storage medium of claim 1, wherein the out-of-sync resources ~~are~~is organized in a sequence determined by ~~their~~its corresponding version number and wherein synchronizing the at least one ~~of the out-of-sync~~ resources comprises transmitting the resources in an order other than the sequence.

11. (Currently Amended) The computer-~~readable~~ storage medium of claim 1, wherein the first interval vector is represented by an interval decision diagram having internal and leaf nodes, wherein internal nodes represent binary digits in a binary expansion of a version sequence number and have two outgoing edges.

12. (Currently Amended) The computer-~~readable~~ storage medium of claim 11, wherein the interval decision diagram remains the same size regardless of the number of intervals in the interval vector.

13. (Currently Amended) An apparatus for replicating resources, comprising:

storage arranged to store the resources, each resource associated with a version;

storage arranged to store an interval vector, the interval vector comprising one or more intervals of versions, each interval having an upper bound and a lower bound, wherein the interval vector is represented as a trie embodied as a directed acyclic graph;

a communications mechanism arranged to transmit the interval vector and to receive updates in response thereto, wherein determining whether to update a resource comprises finding that the version associated with the resource is not included in any of the intervals of the interval vector.

14.   (Original)   The apparatus of claim 13, wherein one of the updates comprises a deletion of a resource.

15.   (Original)   The apparatus of claim 13, wherein one of the updates comprises a modification of a resource.

16.   (Currently Amended) An apparatus for replicating resources, comprising:The apparatus of claim 13,

storage arranged to store the resources, each resource associated with a version;

storage arranged to store an interval vector, the interval vector comprising one or more intervals of versions, each interval having an upper bound and a lower bound, wherein the interval vector is represented as a binary search tree;

a communications mechanism arranged to transmit the interval vector and to receive updates in response thereto, wherein determining whether to update a resource comprises finding that the version associated with the resource is not included in any of the intervals of the interval vector.

17.   (Canceled)

18.   (Currently Amended) The apparatus; of claim 1317, wherein the directed acyclic graph is an interval decision diagram.

19.　　(Original)　　The apparatus of claim 18, wherein the interval decision diagram has a size that remains constant regardless of the number of intervals in the interval vector.

20-21.　(Canceled)

22.　　(New)　A computer implemented method, comprising:

maintaining a interval vector, the interval vector comprising at least two-intervals of versions, each interval having an upper bound and a lower bound, and the interval vector comprising at least one gap in versions between two intervals;

evaluating the interval vector to identify the gap;

using the gap in the interval vector to determine that a resource is out-of-sync between a first members and a second member of a replica set, wherein the resource has a version contained within the gap of the interval vector;

synchronizing the resource; and

updating the interval vector to indicate that the resources is synchronized.

23.　　(New)　The method of claim 22, wherein each version is a number.

24.　　(New)　The method of claim 22, wherein the intervals of the interval vector are represented as nodes of a binary search tree.

25.　　(New)　The method of claim 24, wherein the binary search tree is selected from the group consisting of an AVL tree, a red-black tree, and a splay tree.

26.　　(New)　The method of claim 24, wherein each non-terminal node of the binary search tree has at least one child, the child having an interval with an upper bound less than the lower bound of the interval in the child's parent node or having an interval with a lower bound greater than the upper bound of the child's parent node.

27.　　(New)　The computer implemented method of claim 22, wherein the binary search tree is selected from the group consisting of an AVL tree, a red-black tree, and a splay tree.

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